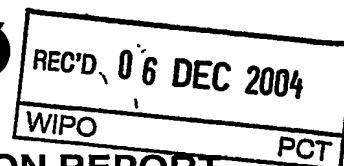


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)





Applicant's or agent's file reference K1775 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/US 03/30951	International filing date (day/month/year) 01.10.2003	Priority date (day/month/year) 28.10.2002
International Patent Classification (IPC) or both national classification and IPC B65H37/00		
Applicant 3M INNOVATIVE PROPERTIES COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 10.05.2004	Date of completion of this report 03.12.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Pollet, D Telephone No. +49 89 2399-7516 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/30951**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1, 2, 4-19 as originally filed
3, 3a received on 22.10.2004 with letter of 22.10.2004

Claims, Numbers

1-14 received on 22.10.2004 with letter of 22.10.2004

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/30951**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-6,8,11
	No: Claims	1,7,9,10,12-14
Inventive step (IS)	Yes: Claims	
	No: Claims	1-14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US 03/30951

Reference is made to the following documents:

D1: PATENT ABSTRACT OF JAPAN vol. 2000, no. 21, 3 August 2001 & JP-A-2001 097636

D3: PATENT ABSTRACT OF JAPAN vol. 2002, no. 10, 10 October 2002 & JP-A-2002 167110 (D3')

Re Item I

Basis of the report

The amendments filed with the letter dated October 22, 2004 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT.

The applicant has deleted the following features in independent claim 1:

a guide pin capable of abutting during movement against the surface of the adherend opposite to the tape applying surface portion of said adherend;

a pair of tape holding members facing each other in vertical direction.

At least one of these features is indispensable as such for the function of the invention in the light of the technical problem which it seeks to solve (see p. 4, I. 3-7; p. 8, I. 32 to p. 9, I. 3; p. 18, I. 28-31 etc). Further, the features according to claim 2 in that the guide pin is capable of being received in a groove provided in the adherend opposite the tape applying surface have not been found in the description as filed. In addition, there is also no basis in the description (see p. 9, I. 5-8 and I. 18) for a jig guide comprising at least one roller (cf. claim 10) and a plate member having a rectangular cross section (cf. claim 9).

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.1 Lack of novelty

The present application does not appear to meet the requirements of Article 33(2) PCT, because the subject-matter of claims 1, 7, 9, 10 and 12-14 appears to be not new for the following reason:

re claim 1:

Document D3 describes a tape application jig (10) for applying a pressure sensitive adhesive tape to an adherend (20) having bent portions and/or curved portions, comprising: a tape application head (2) for applying said pressure sensitive adhesive tape under pressure to a tape applying surface (20a) of the adherend; a jig guide (1) which is to be disposed on a surface of the adherend opposite to said tape application head for guiding said tape application jig along the surface of the adherend (see Fig. 2); a biasing member (7) for biasing said jig guide and said tape application head toward one another to thereby control tape application and pressing force exerted on the pressure sensitive adhesive tape, when the tape applying surface of the adherend is in position therebetween for receiving the pressure sensitive tape (see D3' [0039] and [0043-0044]); and a tape holding member (6) forming a tape guiding space.

Note that also document D1 discloses the subject-matter of at least claim 1 (see the spring depicted in fig. 1 between the jig guide (1) and the member holding the tape application head (3, 7)).

re claim 7:

The application head of the jig according to D3 comprises at least one cylindrical member (2).

re claim 9:

The jig guide according to D3 comprises a plate member having a rectangular cross-section.

re claim 10:

The jig guide according to D3 comprises at least one roller (3).

re claims 12-14:

The adherend according to D3 is part of a window frame of a vehicle (see D3' [0003 and 0029]).

V.2 Lack of inventive step

Dependent claims 2-6, 8 and 11 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(3) PCT. The features herein disclosed appear to be merely some of several constructional possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill. Hints thereto could easily be taken from the above mentioned documents.

V.3 Industrial applicability

Since it appears that the claimed invention can be made or used in a technological sense in industry, the claimed invention appears to have industrial applicability within the meaning of Article 33(4) PCT.

Further Remarks

1. *Clarity*

It is clear from the description on page 4, l. 2-7 that the following features are essential to the definition of the invention:

- (1) a guide pin on the jig guide; and/or
- (2) two tape holding members.

Since independent claim 1 does not contain either of these features it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

The application does not meet the requirements of Article 6 PCT, because claims 1,

3, 5, 6 and 8 are not clear for the following reasons:

In claim 1 the functional statement 'a tape holding member forming a tape guiding space' does not enable the skilled person to determine which technical features are necessary to perform the stated function.

Claim 3 defines that *said jig guide further comprises a block*. However, according to the description p. 16, l. 27 the jig guide *is* a block.

The matter for which protection is sought is not clearly defined in claim 5. The claim defines the subject-matter in terms of the result to be achieved which merely amounts to a statement of the underlying problem. The technical features necessary for achieving this result should be added.

The wording 'angle cross section' used in claim 6 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claim unclear.

The matter for which protection is sought is not clearly defined in claim 8. The functional statements 'slide promoting layer' and 'buffer layer' do not enable the skilled person to determine which technical features are necessary to perform the stated functions.

2. *Formal deficiencies*

A document reflecting the prior art described on page 2 (Figs. 1-2), is not identified in the description (Rule 5.1(a)(ii) PCT).

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US 03/30951

Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, with those features known in combination from the prior art (document D1 or D3) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

22. Okt. 2004

application operation tends to give rise to a line of application mark on the surface of the tape or an inclusion of air bubble. In addition, conventional application jig has a drawback that the adhesive tape cannot be held reliably at the bent portion or curved portion of the adherend. Moreover, conventional tape application jig has a limit in the angle of the bent portion of adherend which permits the jig to be utilized, and the jig can be used only to such an adherend that has a bent portion 21 in Fig. 1 with the angle θ not less than 110 degrees. *[- page 3a -]*

Summary of the Invention

An advantage of at least one embodiment of a tape application jig according to the present invention is that a pressure sensitive adhesive-backed tape can be held reliably and applied to the adherend quickly and smoothly by moving the tape application jig continuously along the tape applying surface portion of the adherend, that is, without removing and re-attaching the jig during the tape application operation, even when the adherend is of a complex shape. Another advantage of at least one embodiment of the jig of the invention is that the pressure sensitive adhesive tape can be applied to the adherend continuously even when the adherend has a bent portion at an acute angle. An additional advantage of at least one embodiment of the jig of the invention is that the pressure sensitive adhesive tape can be applied to the adherend continuously even when the adherend has a bent portion at a right angle.

In at least one embodiment of the present invention, a tape application jig for a pressure sensitive adhesive tape is provided that permits tape application operation to be carried out quickly and reliably without requiring higher skill of a worker, especially when the pressure sensitive adhesive tape is to be applied to an elongated adherend having bent portions or curved portions on its way such as, for example, a sash frame of an automobile.

In at least one embodiment of the present invention, a tape application jig can be provided that eliminates, or at least substantially reduces, the need to remove the application jig from the adherend and to perform tape application work manually, even when a bent portion, for example, appears in the way of tape application operation.

In at least one embodiment of the present invention, a tape application jig for a pressure sensitive adhesive tape can be provided that permits the advancing direction of

◀ In JP-A 2001097636 an application jig is disclosed wherein a first jig guide moves a sticking jig along a stuck body. Further a second jig guide is set at the opposite side from the first jig guide by holding a tape sticking head to contact an adhesive tape to the stuck body.

Further, in JP-A 2001328573 a tape sticking device is disclosed comprising a pressing roller which is rotatable connected to two bodies. A first guide roller is rotatable attached substantially in parallel with the pressing roller to the first body. A second guide roller is rotatable attached to the first body around an axis crossing the first guide roller and cooperates with the first guide roller for movably and engagingly holding the first body along a tape applying face. A tape guide plate forms a tape guide part to guide the adhesive tape with a release agent between a space with the pressing roller.

JP-A 2002167110 discloses a sticking jig for an adhesive tape which includes a jig body, a tape sticking head mounted on said jig body and a jig guide. The tape sticking head can be moved horizontally on a slide member attached to the jig body wherein a position relationship between the tape sticking head and the jig guide can be adjusted ▶

22-10-2004; 2003/030951

3M Innovative Properties Company
Our Ref.: K 1775 PCT

Fair Copy

SSIUS & PARTNER
PATENTANWÄLTE
SIEBERTSTR. 4
81675 MÜNCHEN
22. Okt. 2004

Claim :

1. A tape application jig for applying a pressure sensitive adhesive tape to an adherend having bent portions and/or curved portions, comprising:

a tape application head for applying said pressure sensitive adhesive tape under pressure to a tape applying surface of the adherend;

a jig guide which is to be disposed on a surface of the adherend opposite to said tape application head for guiding said tape application jig along the surface of the adherend;

a biasing member for biasing said jig guide and said tape application head toward one another to thereby control tape application and pressing force exerted on the pressure sensitive adhesive tape, when the tape applying surface of the adherend is in position therebetween for receiving the pressure sensitive tape; and

a tape holding member forming a tape guiding space.

AMENDED SHEET

- { 2. The tape application jig of claim 1, wherein said jig guide further comprises a guide pin capable of being received in a groove provided in the adherend opposite to the tape applying surface of the adherend, such that said guide pin engages the groove in the adherend, when said tape application jig is in position on the adherend to apply the pressure sensitive tape to the tape applying surface, so as to prevent the tape application jig from being removed from the adherend in a direction other than the direction the tape application jig travels when applying the pressure sensitive adhesive tape, without first biasing said tape application head and said jig guide apart.
3. The tape application jig according to claim 2, wherein said jig guide further comprises a block and said guide pin is embedded in said block.
4. The tape application jig according to claim 2, wherein said guide pin has a diameter of about 1mm to about 5mm }

22. Okt. 2004

Claims:

1. ~~A tape application jig for applying a pressure sensitive adhesive tape to an adherend having bent portions and/or curved portions, comprising:~~

5 a tape application head for applying said pressure sensitive adhesive tape under pressure to a tape applying surface portion of said ^{the} adherend;

a jig guide which is disposed on ^{to be} the surface of said ^a adherend opposite to said tape application head for guiding said tape application jig along the surface of said ^{the} adherend; <<->>

10 and a tape holding member composed of a pair of members facing each other in vertical direction, thereby forming a tape guiding space;

wherein said jig guide, further comprises a guide pin capable of abutting during movement against the surface of the adherend opposite to the tape applying surface portion of said adherend. { - page 20a, cls. 2, 3, 4 - }

15 5. ~~The A~~ tape application jig according to ^{any of} claim ^{to 4} 1, wherein said jig is capable of being slid continuously on the tape applying surface portion of the adherend irrespective of shape of the adherend and without removing and re-attaching the tape application jig.

20 6. ~~The A~~ tape application jig according to ^{any of} claim ^{to 5} 1 or 2, wherein said tape holding member consists of a plate member having a rectangular cross section and an opposing plate member having an angle cross section.

25 7. ~~The A~~ tape application jig according to any one of claims 1 to ⁶ 6, wherein said tape application head comprises at least one cylindrical member.

8. ~~The A~~ tape application jig according to claim ⁷ 4, wherein said cylindrical member has a surface layer having the function of a slide promoting layer or a buffer layer for the pressure sensitive adhesive tape.

30 9. ~~The A~~ tape application jig according to any one of claims 1 to ⁸ 8, wherein said jig guide comprises a plate member having a rectangular cross section.

~~a biasing member for biasing said jig guide and said tape application head toward one another to thereby control tape application and pressing force exerted on the pressure sensitive adhesive tape, when the tape applying surface of the adherend is in position there between for receiving the pressure sensitive tape~~

10. ~~7.~~ The ~~A~~ tape application jig according to any one of claims 1 to ~~8~~⁹, wherein said jig guide comprises at least one roller.

5 11. ~~8.~~ The ~~A~~ tape application jig according to any one of claims 1 to ~~11~~¹⁰, wherein said tape holding member further comprises a paper processing member for removing and clearing release paper of the pressure sensitive adhesive tape.

12. The use of a tape application jig according to any of claims 1 to 11 with an adherend.

13. The use according to claim 12, wherein said adherend is part of a vehicle.

14. The use according to claim 13, wherein said adherend is part of a window frame of a vehicle.